CLAIMS

1.   A method for diagnosis and prognosis of cancer in a subject comprising:

  (a)   detecting at least one S100 protein selected from the group consisting of S100-AG, S100-A7, S100-A8 and S100-A9 in a biological fluid sample derived from a subject; and

  (b)   comparing the level of protein detected in the subject's sample to the level of protein detected in a control sample,

wherein an increase in the level of S100 protein detected in the subject's sample as compared to a control sample is an indicator of a subject with cancer.

2.   The method of Claim 1 wherein the S100 protein is detected using an immunoassay.

3.   The method of Claim 2 wherein the immunoassay is an immunoprecipitation assay.

4.   The method of claim 1 wherein the sample is a serum sample.

5.   The method of claim 1 wherein the cancer is lung cancer.

6.   The method of claim 1 wherein the cancer is breast cancer.

7.   The method of claim 1 wherein the cancer is colon cancer.

8.   A method for diagnosis of a subject with cancer comprising:

  (a)   contacting a serum sample derived from a subject with a sample containing S100 protein antigens under conditions such that a specific antigen-antibody binding can occur; and

(b)   detecting immunospecific binding of the autoantibodies to the

S100 protein in the subject's serum sample,

wherein the presence of autoantibodies indicates the presence of cancer.

9.   The method of Claim 8 wherein the step of detecting the

autoantibodies in the subject's serum sample comprises the use of a signal-generating

component bound to an antibody that is specific for antibodies in the subject's serum

sample.

10.   The method of Claim 9 wherein the presence of autoantibodies

in the serum sample is measured by an immunoassay comprising:

(a)   immobilizing one or more S100 protein onto a

membrane or substrate;

(b)   contacting the membrane or substrate with a subject's

serum sample; and

(c)   detecting the presence of autoantibodies specific for the

S100 protein in the subject's serum sample,

wherein the presence of autoantibodies indicates the presence of

cancer.

11.   The method of claim 8 wherein the cancer is lung cancer.

12.   The method of claim 8 wherein the cancer is breast cancer.

13.   The method of claim 8 wherein the cancer is colon cancer.

14.   A kit for diagnosis and prognosis of cancer in a subject comprising a

component for detecting the presence S100 protein in a biological

sample.

15.   The kit of claim 14 wherein the component for detecting S100 protein is an anti-S100 antibody.

16.   The kit of claim 15 wherein the anti-S100 antibody is labeled.

17.   The kit of claim 16 wherein the label is a radioactive, fluorescent, colorimetric or enzyme label.

18.   The kit of claim 15 further comprising a labeled second antibody that immunospecifically binds to the anti-S100 antibody.

19.   A kit for diagnosis and prognosis of cancer in a subject comprising a component for detecting the presence of S100 autoantibodies in a sample.

20.   The kit of claim 19 wherein the component is an S100 antigen.

21.   The kit of claim 20 wherein the S100 antigen is labeled.

22.   The kit of claim 20 wherein the S100 antigen is linked to a solid phase.

23.   The kit of claim 19 further comprising a component for detection of the S100 auto antibody.

24.   A method of immunizing a host against an S100 protein, S100 derived peptide or differentially modified S100 protein, comprising inoculating the host with an S100 antigen in a physiologically acceptable carrier, wherein immunization results in a production of antibodies directed against said S100 antigen.

25. The method of claim 24 wherein the host is suffering from a disease characterized by the overproduction of S100 protein.

26. The method of claim 25 wherein the disease is cancer.

27. The method of claim 26 wherein the cancer is lung cancer.

28. The method of claim 26 wherein the cancer is breast cancer.

29. The method of claim 26 wherein the cancer is colon cancer.

30. The method of claim 24 wherein the S100 protein is selected from the group consisting of S100-AG, S100-A7, S100-A8 and S100-A9.

31. A composition for immunizing a host comprising at least one S100 protein and an adjuvant.

32. The composition of claim 31 wherein the S100 protein is selected from the group consisting of S100-AG, S100-A7, S100-A8 and S100-A9.